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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HAEWON UHM,
LESLIE HORTON,
AVI DESAI, WILLIAM BITTLE,
CHUCK FORD,
and BETTY ROBERTS

Appeal 2008-6060
Application 10/734,029
Technology Center 1700

Decided: December 30, 2008

Before EDWARD C. KIMLIN, THOMAS A. WALTZ, and
JEFFREY T. SMITH, *Administrative Patent Judges*.

KIMLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-6 and 8-18.

Claim 1 is illustrative:

1. A wet lay process for preparing a glass fiber mat comprising the steps of:

- (a) sizing glass fibers with a sizing composition which includes a partially amidated polyalkylene imine cationic lubricant;
- (b) separating said sized glass fibers by immersing said sized glass fibers in an aqueous dispersant medium that includes an emulsifier, whereby a slurry is formed;
- (c) agitating said slurry causing said emulsifier to generate entrained air, said agitating causing the separation of the glass fibers into individual strands;
- (d) collecting the individual sized glass fibers on an endless moving conveyor;
- (e) drying said individual sized glass fibers as the individual sized glass fibers move on the endless moving conveyor;
- (f) contacting said dried, sized glass fibers with a thermosetting binding resin; and
- (g) curing said thermosetting resin whereby a glass fiber mat is formed.

The Examiner relies upon the following references as evidence of obviousness:

Tiesler	US 4,957,559	Sep. 18, 1990
Vanderhoff	US 5,106,903	Apr. 21, 1992
Mirous	US 5,518,586	May 21, 1996
Sage	US 6,228,281 B1	May 8, 2001
Jaffee	US 6,432,482 B1	Aug. 13, 2002

“HydroFormer™, "Datasheet [online], Voith Paper, [Retrieved on Jan. 3, 2007 (Internet: URL: http://www.hydroformer.com/dnd_1.html).

"Deltaformer™, "Datasheet [on line], Glens Falls Interweb, Inc., 2002 (Retrieved Jan. 3, 2007), (Internet: URL:<http://web.archive.org/web/-20020609105744/http://gfinetweweb.com/deltaformer.ht.ml>).

Appellants' claimed invention is directed to a wet lay process for preparing a glass fiber mat. The process entails, inter alia, sizing glass fibers with a sizing composition which includes a partially amidated polyalkylene imine cationic lubricant.

Appealed claims 1-6 and 8-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mirous in view of Sage and Jaffee.

Appellants have not separately argued any particular claim on appeal. Accordingly, all the appealed claims stand or fall with claim 1.

We have thoroughly reviewed each of the arguments advanced by Appellants. However, we are in complete agreement with the Examiner's reasoned analysis and application of the prior art, as well as his cogent and thorough disposition of the arguments raised by Appellants. Accordingly, we will adopt the Examiner's reasoning as our own in sustaining the rejection of record, and we add the following for emphasis only.

Appellants do not dispute that Mirous, like Appellants, discloses a wet lay process for forming a glass fiber mat including the steps of adding glass fiber bundles to an aqueous dispersant medium and forming a "white water" slurry of fibers under agitation wherein the medium may contain a lubricant and a dispersant. Mirous does not disclose a particular lubricant, such as Appellants' amidated polyalkylene imine cationic lubricant. However, as set forth by the Examiner, Sage discloses treating glass fibers with a sizing composition that may comprise the presently claimed lubricant. The Examiner points out that "Sage further teaches that the size coating reduces

fuzz and improves processing properties of the fibers, such as fiber bundle cohesion, spreadability, fiber smoothness and softness, abrasion resistance and ease in unwinding the fiber bundles [and protecting] the fibers from damage during handling (col. 2, ll. 10-32)" (Ans. 8, third para.).

Accordingly, based on the combined teachings of Mirous and Sage, we find no error in the Examiner's legal conclusion that it would have been obvious for one of ordinary skill in the art to select the presently claimed lubricant, disclosed by Sage, in the process of Mirous for making a glass fiber mat. We agree with the Examiner that one of ordinary skill in the art would have had the requisite reasonable expectation of successfully using the claimed lubricant to size the glass fibers of Mirous.

Appellants contend that "Sage does not teach fibers for a glass mat" (Br. 11, second para.). Appellants cite column 6, lines 54-64 of Sage for various uses of Sage's sized glass fibers that does not include making a glass mat. However, as noted by the Examiner, Sage expressly discloses that "glass fibers, as well as woven and non-woven fabrics, meshes and scrims have been added to the thermosetting polymer matrices for use in pultrusion, filament-winding, spray-up, sheet molding and bulk molding operations" (col. 1, ll. 24-28). Consequently, we, like the Examiner, are convinced that one of ordinary skill in the art would have interpreted Sage as teaching that the sized, lubricant-treated glass fibers can be used to make glass fiber mats.

Appellants cite Examples 1-6 in Table 1 of the present Specification for showing that sizing compositions of the present invention eliminate the storing of wet glass fibers in order to dry them sufficiently. However, Appellants have not refuted the valid criticisms of the comparative data lodged at pages 9-10 of the Answer. Specifically, the Examiner points out

that "[t]he typical cationic lubricant from prior art is not specified and it cannot be determined if the lubricant corresponds to any of the cited prior art" (Ans. 9, second para.). The Examiner also points out that the specific concentration used for the comparative example is not known and "the amount of the sizing ingredients retained on the fibers is unknown" (*id.*). The Examiner further criticizes the Specification data on the basis that the composition for Specification Example 1 comprises partially amidated polyalkylene amine, the table on page 10 lists a partially amidated polyalkylene imide whereas the claims recite a partially amidated polyalkylene imine. The Examiner explains that "[a]n amine, an imide and an imine represent three different chemical species [ergo] [t]he examples do not appear to provide any support for the claimed lubricant" (Ans. 9, third para.).

Appellants further maintain that although Mirous uses a water insoluble anionic binder, "claims 1 and 11 do not recite, nor require the use of an anionic binder" (Br. 13, second para.). However, as explained by the Examiner, "[t]he open language of the instant claims does not preclude additional ingredients, such as the disclosed anionic phosphate ester (of Mirous)]" (Ans. 11, first para.). We note that the claim language "comprising" does not preclude the use of an anionic binder in the process for preparing a glass fiber mat.

As a final point, we observe that although Appellants cite Specification data, Appellants make no assertion that the present record includes objective evidence of unexpected results.

In conclusion, based on the foregoing and the reasons well stated by the Examiner, the Examiner's decision rejecting the appealed claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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